

Appl. No. 10/673,613  
Amdt. dated September 1, 2006  
Reply to Office action of April 3, 2006

Docket No. 02RSC064US1

**Amendments to the Claims:**

This listing of claims below will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

- 1-17. (Cancelled)
18. (Currently Amended) A An improved golf club head with improved performance, including a face having a surface for contacting a golf ball, wherein the improvement comprises:
- a friction stir processed ~~metallie~~ region of the face surface having, by virtue of the friction stir processing, a local fine grained microstructure whose mechanical properties are distinct from the mechanical properties of other portions of the head; and
- the friction stir processed region is not adjacent to an insert attached to the golf club face.
19. (Cancelled)
20. (Currently Amended) The golf club head of claim 18, wherein the friction stir processed ~~metallie~~ region is harder than the other portions of the head.
- 21-22. (Cancelled)
23. (Currently Amended) The golf club head of Claim 18, wherein the friction stir processed ~~metallie~~ region is ~~no more than~~ 1 to 3 mm thick.
24. (Previously Presented) The golf club head of Claim 18, wherein the friction stir processed ~~metallie~~ region ~~substantially corresponds to~~ is positioned within the sweet spot for the head.

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25. (Cancelled)
26. (New) A method for fabricating a golf club having a head having a face comprising a predetermined surface region of a workpiece, comprising the steps of:
- friction stir processing the predetermined surface region of the workpiece without adding or welding material to the predetermined surface region;
- re-surfacing at least the predetermined surface region subjected to friction stir processing so as to provide a desired surface topology.
27. (New) The method of claim 26, wherein the predetermined region extends along and comprises a centerline of the golf club face.
28. (New) The method of claim 27, wherein processing the predetermined region comprises performing multiple overlapping and parallel passes of a friction stir processing tool.
29. (New) The method of claim 28, wherein the processed portion of the predetermined region is 1 to 3 mm thick.
30. (New) The method of claim 29, wherein said step of friction stir processing is performed using a FSP tool rotating at a rate between 150 and 2000 rotations per minute, and which is moved along the workpiece surface at a rate of 50 to 7000 mm/minute.
31. (New) The method of claim 30, wherein said step of re-surfacing includes a step of milling grooves into the friction stir processed predetermined region.
32. (New) The method of claim 31 wherein the golf club head is formed from the workpiece by forging the workpiece into a desired shape after friction stir processing has occurred.
33. (New) The method of claim 31 wherein the golf club head is formed by casting before friction stir processing occurs.